

# Wonderful Wings

(6-9 years of age)

Hummingbirds, robins, eagles, gliders, jets, helicopters and airplanes. What do all of these have in common? In this activity you will discover how birds and airplanes are alike.

## *Blast Off!*

1. Color the birds and the airplanes on pages 3 and 4.
2. Cut out the fourteen picture boxes.
3. Arrange the boxes in order with the birds facing up.
4. Staple the boxes together on the top left corner. **Helper note:** Be sure edges are trimmed evenly.
5. Flip through the pictures and watch the bird take off, fly and land.
6. Turn your booklet over, flip through the airplane pictures and watch an airplane take off, fly and land.
7. Then draw and color a picture of your favorite airplane and bird.

**What to Do:**  
**Aerospace Skills:**  
**Science Skills:**  
**Materials:**

Compare birds and airplanes.  
Comparing birds to airplanes  
Inferring  
Bird and airplane pictures, crayons,  
Scissors, stapler and staples



Material taken from **Aerospace Adventures: Pre-Flight Stage 1** (BU-06842) by the National 4-H Council, page 6.



## Debriefing

### Ground to Ground (Share)

- What did you see when you flipped through the cards?
- Share with your helper how the bird took off, flew and landed compared to the airplane.

### Climb Out (Process)

- How do the feet, tail, wing and light weight body of a bird compare to the parts of an airplane?

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### Level Off (Generalize)

- How can comparing two things help you learn about them?

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### Cross Country (Apply)

- How can comparing things help you do something else in your life, like:
  - a. Decide which bike to buy?
  - b. Choose a meal at a restaurant?
  - c. Decide if you would rather have a dog or a cat for a pet?

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## Aerospace FACTS

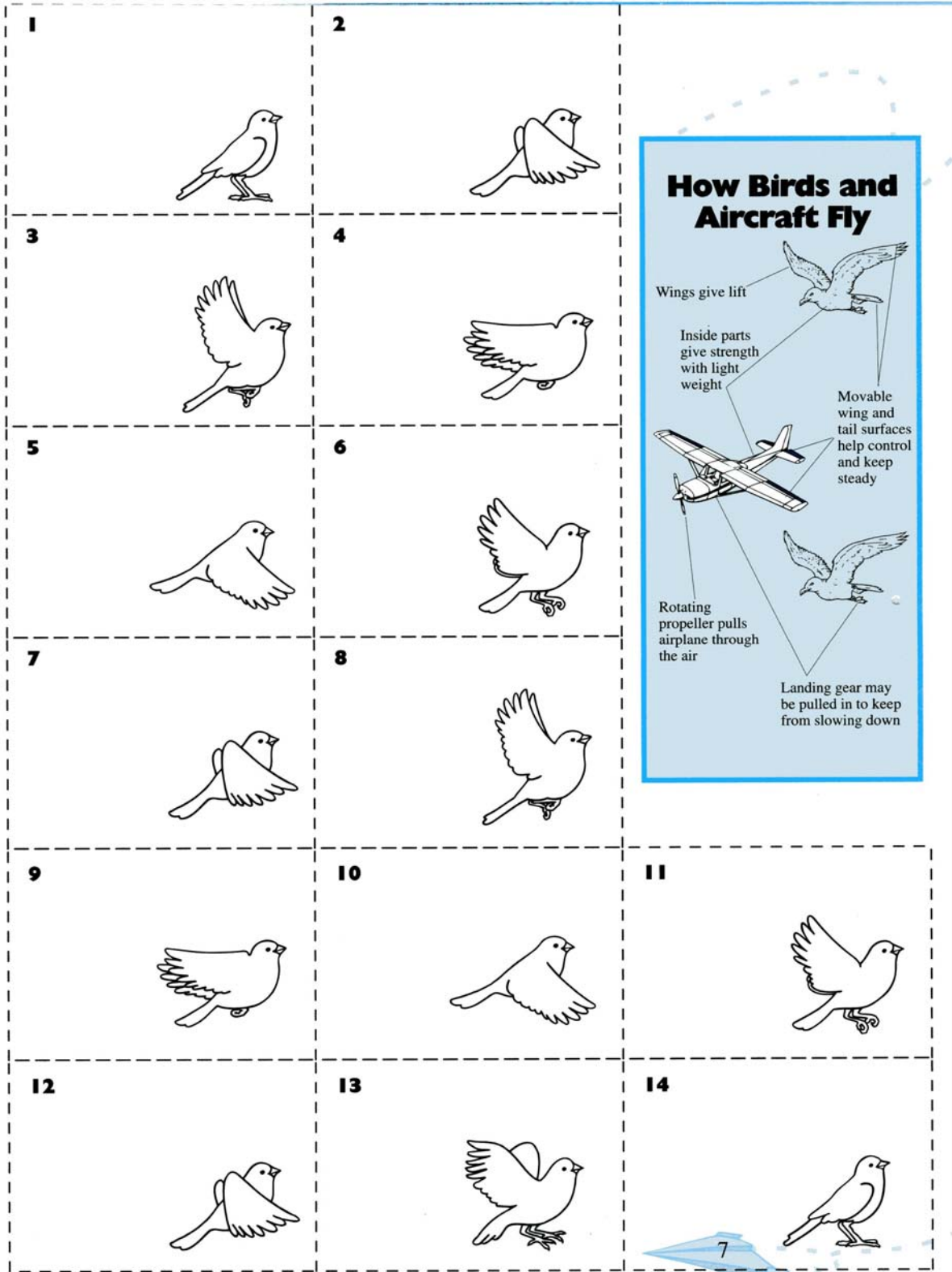
- Pilots must have licenses to fly, just like drivers have licenses to drive. When people pass the tests to get their pilot's licenses, we say they have earned their "wings."
- A special department of government called the Federal Aviation Administration sets the rules for pilots. It also works hard to make sure flying is safe for everyone.

Aviary: A place where birds are kept.

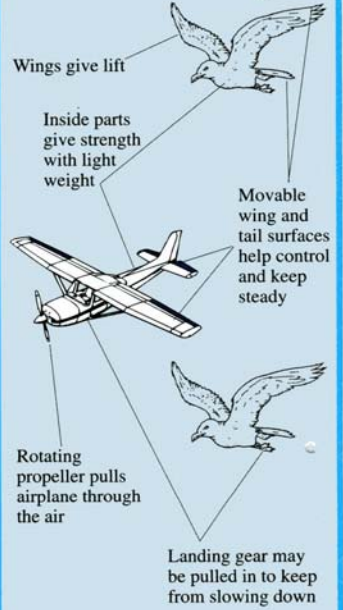


1. Visit an aviary, zoo or your back yard feeder and watch how different birds take off, fly and land.
2. Take a discovery airplane flight through the Young Eagle's Program.





### How Birds and Aircraft Fly



## How Airplanes Fly

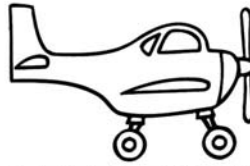
You can try this experiment to see how the wings of an airplane lift in moving air.

1. Hold one end of a sheet of paper close to your lips. Let the other end flop. Blow hard across the top.



2. The paper lifts because air is moving faster over the top of it. This lowers the pressure or weight of air above the paper. Because the air pressure underneath is greater, it lifts the paper.

1.



2.



3.



4.



5.



6.



7.



8.



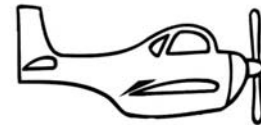
9.



10.



11.



12.



13.



14.

